Dan Anderson* (dan-anderson@uiowa.edu), Department of Mathematics, The University of Iowa, Iowa City, IA 52242, and Jason Juett. Length functions for factorization in commutative rings.

Let R be a commutative ring, not necessarily an integral domain. We investigate several functions which measure the length of factorizations of an element of R; namely, maximal length, minimal length (of an atomic factorization), ordinal-valued length, and minimal (resp., maximal) length of the essential part of a U-decomposition (resp, U-factorization). We also consider the corresponding elasticities. (Received July 07, 2014)